

FINANCIAL RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF LISTED DEPOSIT MONEY BANKS (DMBS) IN NIGERIA

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ABSTRACT

The study examined the effect of financial risk management on the financial performance of listed Deposit Money Banks (DMBs) in Nigeria, focusing on the period from 2014 to 2023. The research adopts a positivist philosophy and used an Ex-Post-Facto research design. Data was extracted from the published annual reports of 14 listed DMBs on the Nigerian Exchange Group (NGX), with a final sample size of Nine (9) banks selected through purposive sampling. The study employed Descriptive Analysis, Unit Root Tests, Panel ARDL Model and Moderated Multiple Regression Technique (MMR) for data analysis, utilizing E-Views Version 10 and SPSS Version 23 for statistical analysis. The results revealed that credit risk management has a significant effect on return on assets (ROA) in the long run, but no significant effect in the short run. Operational risk management, on the other hand, significantly influences both return on assets (ROA) and earnings per share (EPS) in both the short and long run. Additionally, the risk committee has an insignificant moderating effect on the relationship between financial risk management and both ROA and EPS. The study concluded that financial risk management positively influences financial performance in the long run, but its effect is statistically insignificant in the short run. Based on the findings, it was recommended amongst others that banks should prioritize operational risk management strategies for improved performance and consider revising their risk management frameworks to enhance their long-term stability. The study also recommended further exploration of the role of risk committees in moderating the relationship between financial risk management and performance. The study adds to the literature on financial risk management in emerging markets by providing insights into how different dimensions of risk management impact the financial performance of Nigerian banks. It highlights the importance of long-term risk management strategies and emphasizes the need for further research on the role of corporate governance, specifically risk committees, in shaping financial outcomes. The study also provides empirical evidence for policymakers and banking sector stakeholders, offering practical implications for improving financial risk management practices in Nigeria.

Keywords: financial risk management, credit risk management, operational risk management, financial performance, return on asset, earnings per share and risk committee size.

INTRODUCTION

The banking sector plays a pivotal role in the economic development of any country, particularly in developing economies like Nigeria. As financial intermediaries, banks facilitate the flow of funds, support investment activities, and provide credit to various sectors of the economy. However, the banking industry is also highly exposed to various risks, such as credit risk, market risk, liquidity risk, and operational risk, all of which can significantly impact their financial performance and stability. As a result, the management of these financial risks has become a crucial component of a bank's operational framework, influencing not only its day-to-day activities but also its long-term viability and growth (Enekwe et al., 2023; Horvey & Houwayji, 2024). In the Nigerian context, banks have been severely affected by financial crises, regulatory changes, and macroeconomic volatility. The global financial crisis of 2008 and subsequent challenges in the Nigerian financial system

exposed significant vulnerabilities in the risk management frameworks of many banks. The Central Bank of Nigeria (CBN), through various policy reforms and regulations, has emphasized the importance of effective financial risk management practices to safeguard the stability of banks and, by extension, the entire financial system. Consequently, banks in Nigeria have increasingly been forced to adopt more rigorous risk management frameworks to ensure they remain resilient in the face of external shocks and internal challenges (Isibor et al., 2024; Jamal et al., 2024; Houwayji, 2024).

Financial risk management encompasses the identification, assessment, monitoring, and mitigation of the various risks banks face, and it has gained significant importance over the years. Effective risk management ensures that banks can sustain profitability, minimize losses, and maintain a stable capital position. Financial performance, in this regard, is often measured by key indicators such as return on assets (ROA), return on equity (ROE), profit margins, and asset quality. A bank's ability to manage its risks successfully is thought to directly influence these performance indicators, leading to improved profitability, operational efficiency, and long-term sustainability (Kumshe et al., 2024). While substantial research has been conducted on the relationship between financial risk management and performance in different sectors and countries, the specific dynamics within the Nigerian banking sector remain underexplored. Kyabarongo et al (2024) and Mahat et al (2023) have explored the general impact of financial risk management on performance, but there are gaps in understanding how these practices are uniquely applied in the context of Nigerian banks. This is particularly significant given the unique challenges faced by Nigerian banks, including exposure to fluctuating oil prices, exchange rate volatility, and political instability. Additionally, there is a lack of consensus in existing literature regarding the exact nature of the relationship between financial risk management and financial performance. While some studies suggest a positive relationship, others point to a more complex interaction, highlighting that ineffective or overly conservative risk management practices might stifle profitability; while overly aggressive risk-taking could lead to financial instability (Onyegiri et al., 2024; Sani & Hashim, 2024). This research gap underscores the need for more focused studies, particularly in the Nigerian banking sector, to understand the nuances of how financial risk management influences performance. Furthermore, recent corporate governance reforms in Nigeria, such as the risk committee structure, have introduced a new dimension to the way financial risks are managed. The introduction of risk committees, responsible for overseeing risk management practices, has become a key governance mechanism in Nigerian banks. There has been little research exploring the influence of risk committee size and structure on the effectiveness of risk management and, consequently, on financial performance (Soyemi et al., 2022; Përvetica & Ahmeti, 2023; Makwe et al., 2024; Mamari & Ghassani, 2022; Nyarangi & Ngali, 2021). The study explored how banks' risk management practices, including the establishment and functioning of risk committees influences their financial performance of listed Deposit Money Banks (DMBs) in Nigeria. By analyzing financial data and incorporating moderating variables, such as the risk committee size, the study seeks to provide a deeper understanding of the impact of financial risk management on the financial health of Nigerian banks. Furthermore, given the unique challenges faced by Nigerian banks and the evolving regulatory environment, understanding the effect of financial risk management on financial performance is essential for policymakers, bank managers, and investors. The study aims to fill existing research gaps by providing empirical evidence on the relationship between credit risk and operational risk factors contributing to better risk management practices and enhanced financial stability in the Nigerian banking sector.

Statement of the Problem

The financial performance of banks is intricately linked to how effectively they manage financial risks. Financial risks, such as credit risk, market risk, operational risk, and liquidity risk, are inherent in the banking industry and can have far-reaching consequences for an institution's profitability, stability, and long-term viability. Despite the increasing importance of financial risk management in the banking sector, there is a growing concern that many Nigerian banks continue to struggle with

effectively managing these risks. This struggle can lead to poor financial performance, loss of shareholder value, and even failure, as seen during financial crises in the past (Adeyinka & Henry 2024). In the Nigerian banking sector, the complexity of financial risk management is compounded by various external and internal challenges, including economic volatility, exchange rate fluctuations, regulatory changes, and political instability. The global financial crisis of 2008 and subsequent regional challenges exposed much vulnerability in the risk management systems of Nigerian banks, leading to a greater emphasis on the need for robust financial risk management frameworks. Despite this, many banks continue to face significant challenges in mitigating the impact of these risks on their financial performance. While several studies have explored the relationship between financial risk management and financial performance globally, there remains a significant gap in empirical research regarding this relationship within the context of Nigerian banks. Most of the existing studies are either limited in scope, generalized across industries, or fail to focus specifically on the Nigerian banking sector, where unique factors and challenges are at play (Aikpokhio et al., 2024). As a result, there is a lack of clarity about the specific impact of financial risk management practices on the financial performance of listed deposit money banks in Nigeria. Moreover, while the Nigerian banking sector has adopted various risk management frameworks, one of the key governance structures, the risk committee, has not been sufficiently studied in terms of its role in moderating the relationship between financial risk management and financial performance. Risk committees are responsible for overseeing risk management activities and ensuring that banks are adequately prepared to handle emerging risks. However, there is little empirical evidence on whether the size, composition, and effectiveness of risk committees can influence the success of financial risk management practices and, consequently, the financial performance of Nigerian banks (Mugisha & Twesigye, 2024; Abdessetar et al., 2021; Jinadu, 2022). Furthermore, despite the growing recognition of the importance of corporate governance in risk management, there has been limited exploration of how these governance mechanisms, particularly the role of the risk committee, contribute to enhancing risk management effectiveness in the Nigerian banking context. Some studies suggest that larger or more independent risk committees may contribute to better risk management, leading to improved financial performance, but this hypothesis remains under-explored in the Nigerian banking sector (Yogiana & Shaleha, 2023; Kankpang et al., 2023; Tegene & Venkataram, 2023; Wijayanty et al., 2024).

The Panel Autoregressive Distributed Lag (ARDL) model has proven effective in analyzing the short-term and long-term relationships between variables in financial studies, but it has not been widely used in research on the relationship between financial risk management and financial performance in Nigerian banks. Most existing studies have relied on simpler, static models that fail to capture the dynamic nature of the relationship between risk management and performance over time (Dunyoh et al., 2022; Festus & Fajuyagbe, 2022; Jegede et al., 2021; John, 2020; Kakanda et al., 2021; Kanu, 2021; Olaoye, 2020; Olayinka et al., 2022; Adeusi et al., 2023). Thus, the problem the study aims to address is the inconclusive and mixed findings regarding the effect of financial risk management on the financial performance of listed Deposit Money Banks in Nigeria, particularly with the inclusion of risk committees as a moderating variable. There is a pressing need for empirical evidence to clarify the role of financial risk management practices in enhancing or hindering the financial performance of Nigerian banks and to examine how the size and structure of risk committees can influence this relationship. The study seeks to fill the gap in the existing literature by investigating how financial risk management practices, combined with the moderating effect of risk committees, impact the financial performance of listed Deposit Money Banks (DMBs) in Nigeria. By using the Panel ARDL model, the study aims to provide a deeper understanding of the short-term and long-term effects of financial risk management on bank performance, offering valuable insights for policymakers, bank managers, and other stakeholders in the Nigerian banking sector.

Conceptual Framework

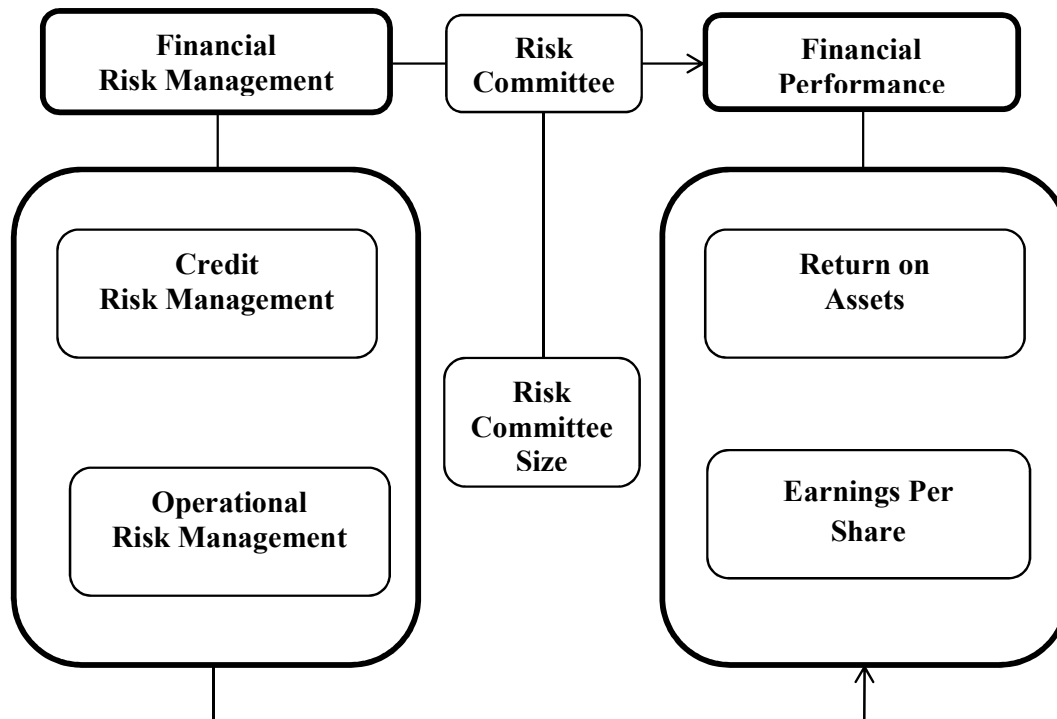


Figure 1.1 Conceptual Framework Showing Financial Risk Management Measures and Financial Performance

Sources: Njoroge and Ngahu (2024); Ambetsa et al (2023); Al-Nimer et al (2021); Amin et al (2023).

Aim and Objectives of the Study

The ultimate aim of this study was to evaluate the effect of financial risk management on financial performance of listed deposit money banks in Nigeria. Therefore, the specific objectives of this study are to:

1. evaluate the effect of credit risk management on return on assets of listed deposit money banks in Nigeria;
2. evaluate the effect of operational risk management on return on assets of listed deposit money banks in Nigeria;
3. evaluate the effect of credit risk management on earnings per share of listed deposit money banks in Nigeria;
4. evaluate the effect of operational risk management on earnings per share of listed deposit money banks in Nigeria;
5. evaluate the extent to which risk committee size moderate the relationship between total financial risk management and return on assets of listed deposit money banks in Nigeria.
6. determine the moderating effect of risk committee size on the relationship between total financial risk management and earnings per share of listed deposit money banks in Nigeria;

Research Questions

In line with the objectives of this research work, the following questions were raised:

1. How does credit risk management affect return on assets of listed deposit money banks in Nigeria?

2. What is the extent to which operation risk management affect return on assets of listed deposit money banks in Nigeria?
3. How does credit risk management affect earnings per share of listed deposit money banks in Nigeria?
4. What is the extent to which operation risk management affect earnings per share of listed deposit money banks in Nigeria?
5. What is the moderating effect of risk committee size on the relationship between total financial risk management and return on assets of listed deposit money banks in Nigeria?
6. To what extent does risk committee size moderate the relationship between total financial risk management and earnings per share of listed deposit money banks in Nigeria?

Hypotheses

From the objectives of the study and the resultant research questions, the following research hypotheses emanated:

- H₀₁: The effect of credit risk management on return on assets of listed Deposit Money Banks in Nigeria is not significant.
- H₀₂: The effect of operation risk management on return on assets of listed Deposit Money Banks in Nigeria is not significant.
- H₀₃: The effect of credit risk management on earnings per share of listed Deposit Money Banks in Nigeria is not significant.
- H₀₄: The effect of operation risk management on earnings per share of listed Deposit Money Banks in Nigeria is not significant.
- H₀₅: Risk committee size has no significant interacting effect on the relationship between total financial risk management and return on assets of listed Deposit Money Banks in Nigeria.
- H₀₆: The moderating effect of risk committee size on the relationship between total financial risk management and earnings per share of listed Deposit Money Banks in Nigeria is not significant.

Significance of the Study

The study stands to benefits and contributes to the following groups:

Employees: This research study will help to showcase the relevance and importance of financial risk management practices and financial performance as core values to the employees' which will serve as guiding principles to their contributions in the Nigeria Deposit Money Banks.

Investors: The study will enable shareholders to understand that not all corporate reports are as real as they appear in the window-dressed account. It will appear to have a good financial performance but may not accompany by good return to the shareholders. They are therefore advised to protect their interest by improving on financial in the firm.

Regulatory Organizations: The study will also assist regulatory bodies in developing clearly defined and implementable social and financial risk management guidelines that companies (indigenous) must follow as responsible corporate entities in the Nigeria business context.

Research Students: The study will contribute to the increasing body of empirical research on the link between risk management practices and financial performance for students' seeking source of secondary data for future research.

REVIEW OF RELATED LITERATURE

Conceptual Review

Financial Risk Management: Financial risk management refers to the strategies employed by organizations, particularly banks, to identify, assess, monitor, and mitigate risks that could affect their financial performance and stability. Mugisha and Twesigye (2024) opined that risk management framework is a collection of components that provide the conceptual foundation and organizational structure for the development, implementation, supervision, review, and ongoing

improvement of risk management within an organization. Ambetsa et al (2023) asserted that risk management is the process of identifying, assessing and controlling financial, legal, strategic and security risks to an organization's capital and earnings. These threats, or risks, could stem from a wide variety of sources, including financial uncertainty, legal liabilities, strategic management errors, accidents and natural disasters. The objective of effective risk management is to optimize the advantages of a risky scenario while minimizing the adverse impact of the risk. Effective management of risk related to credit in financial institutions is crucial for their continued existence and expansion. In order to achieve this, management of the bank must possess a comprehensive understanding of the composition or combination of each portfolio, concentrations of credits in different industries and geographic regions, average risk rankings, and other collective attributes (Soladoye et al., 2024; Tegene & Venkataram, 2023; Adeyinka & Henry 2024; Al-Nimer et al., 2021).

Dimensions of Financial Risk Management

Credit Risk Management: This refers to the possibility that a borrower or counterparty will fail to meet its financial obligations as they become due. For deposit money banks (DMBs) in Nigeria, credit risk management is one of the most critical aspects of their overall risk management framework. This is because the primary business of banks involves lending money, and if borrowers default on their obligations, it can significantly affect the bank's financial stability and profitability. Effective credit risk management ensures that banks can minimize the potential for losses due to credit defaults, while also optimizing their lending practices to ensure profitability. In the Nigerian banking sector, credit risk management involves a series of strategies, policies, and processes designed to identify, assess, mitigate, and monitor the credit risk associated with lending activities. Given the economic volatility in Nigeria, including fluctuations in oil prices, exchange rate instability, and political uncertainties, the ability to manage credit risk effectively is particularly important. Kumshe et al (2024) highlighted key components of credit risk management in the context of Deposit Money Banks in Nigeria: The first step in effective credit risk management is identifying the risks associated with lending. Credit risk arises from a variety of sources such as borrower defaults, concentration of credit exposure to particular sectors, and changes in the economic environment. In conclusion, credit risk management is a critical function for Deposit Money Banks in Nigeria, as it directly impacts their ability to lend responsibly and maintain financial stability. By identifying, assessing, mitigating, and monitoring credit risks effectively, banks can ensure they remain profitable and resilient in the face of both internal and external challenges. Given the unique economic and regulatory environment in Nigeria, effective credit risk management is not just a good practice but a necessity for the long-term success of banks in the country (Soladoye et al., 2024).

Operational Risk Management: In a business environment, Chhetri (2021) stated that operational risk management focuses on identifying, assessing, and mitigating risks associated with day-to-day operational activities. Abubakar et al. (2021) asserted that operational risk is the risk of loss due to inadequate or failed internal processes, systems, people, or external events. This type of risk has become increasingly important for Nigerian banks due to the growing reliance on technology and the rise of cyber threats. Abubakar et al. (2021) emphasized that operational risk management involves the implementation of processes, controls, and strategies to minimize the likelihood and impact of operational failures, accidents, and disruptions in the oil and gas industry. Widyastuti et al (2021) stated that many banks also invest in cyber security measures such as multi-factor authentication (MFA) and penetration testing to protect against emerging cyber threats. Kurawa and Garba 2022) shown that operational risks in the oil and gas sector can arise from various sources, including equipment failure, human error, natural disasters, security breaches, regulatory compliance violations, and supply chain disruptions. These risks can significantly impact operational efficiency, production capabilities, safety, environmental sustainability, and reputation (Soladoye et al., 2024).

Financial Performance: Akinleye and Olanipekun (2021) stated that financial performance is the firm's overall financial health over a given period of time. Mugisha and Twesigye (2024) argued that financial performance entails measurement of the results of a firm's policies and operations in monetary terms. Jegede et al (2021) reported that financial performance is a measure of a business ability to make profit or revenue based on the information provided in the financial statements. Mugisha and Twesigye (2024) maintained that financial performance demonstrates the economic state of the firm, the degree of the competition in the industry, and a comprehensive knowledge about the profitability of the sectors within the firm. Jinadu (2022) established that financial performance is the process of determining the operating and financial characteristics of a firm from accounting and financial statements whereby the analyst attempts to measure the firm's liquidity, profitability and other financial indicators that the business is conducted in a rational and normal way to ensure enough returns to the shareholders and maintain at least its market value. Isibor et al (2024) documented that financial performance is to the evaluation of the financial results of an entity or organization, such as a company, financial institution, or individual, over a certain period of time.

Measures of Financial Performance

Return on Assets: Jamal et al (2024) stated that return on assets is a financial ratio used to measure the degree to which the assets have been used to generate profits. Akten Çürük et al (2023) illustrated that return on assets is a financial tool used to measure the rate of return on total assets after interest expense and taxes. Aikpokhio et al (2024) illustrated that return on asset is used for measuring companies' financial performance as regards to the shareholder's usage of funds compared to the firm's assets obtained. Jurdi and AlGhnamat (2021) disclosed that the formula to calculate return on assets is total annual net income divided by the average total assets during a financial year. Additionally, Horvey and Ankamah (2020) stated that return on asset explained the performance and progress of the business in utilizing its resources to generate income. Sani and Hashim (2024) documented that return on asset shown the net income of natural resources firms as percentage of the total assets obtainable for use by a particular firm or organization. Orjinta and Ighosewe (2022) expressed that return on asset is a financial ratio that disclosed the percentage of the company's earnings in relation to total assets.

Earnings Per Share: This is a financial metric that measures the profitability of a pharmaceutical company in Nigeria on a per-share basis. Ozioko and Enya (2021) stated that earnings per share showed the income of the company earned in a particular time period against the number of the company's shares which are outstanding. Aikpokhio et al (2024) documented that earning per share is the portion of a company's profit allocated to each share of common stock. Abere and Saka (2022) claimed that earnings per share are the fragment of a company's profit, given to each outstanding share of common stock. The information about earnings per share is provided as a measure of the interest attributable to each ordinary share a parent company in the performance of the company over the reporting period. This is mathematically expressed as $\text{Earning per share (ESP)} = \frac{\text{net profit}}{\text{total number of shares outstanding in the market}}$. Kiptoo et al (2021) documented that earning per share is a tool that market participants often use to measure the profitability of a company before buying their shares. Maryam et al (2021) reported that earnings per share represent the amount of money earned per number of ordinary shares outstanding in a certain period.

Risk Committee Size: Risk committee plays a crucial role in ensuring that the organization can manage both operational and financial risks effectively while aligning its risk-taking strategies with its overall objectives and regulatory requirements. A risk committee is a subcommittee within an organization's governance structure, typically found in large companies, financial institutions, and banks. Its primary responsibility is to oversee the organization's risk management framework, ensuring that risks are properly identified, assessed, monitored, and mitigated. In the financial

sector, risk committees play an essential role in ensuring compliance with relevant regulations and standards, such as Basel III, SOX (Sarbanes-Oxley Act), and others. They ensure that the organization adheres to industry regulations regarding risk management practices, including the management of credit, market, liquidity, and operational risks. The risk committee acts as an advisor to the board of directors, providing insights into risk-related matters and helping the board make informed decisions. The committee helps the board understand the organization's overall risk profile and the potential impact of risks on its strategic objectives and financial performance. The size of the risk committee can significantly influence both financial risk management and financial performance within an organization, especially in the context of financial institutions like banks. Mamari and Ghassani (2022) stated that a larger risk committee, composed of members with varied backgrounds and expertise (such as finance, law, operations, and risk management), can provide more diverse perspectives on risks. This diversity allows for better identification of a wide range of risks financial, operational, regulatory, and reputational and promotes the development of more comprehensive and effective risk management strategies (Chhetri, 2021; Alalade et al., 2020; Abubakar, 2020). With more members, the committee is also more likely to have specialized individuals who can bring expertise on specific types of risk (e.g., market risk, credit risk, liquidity risk).

Theoretical Review

The study is hinged on the Capital Asset Pricing Model and supported by Stakeholders' Theory.

The Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM) was developed by William Sharpe (1964), John Lintner (1965), and Jan Mossin (1966) as a way to quantify the relationship between an asset's risk and its expected return. According to the model, the expected return on an asset is determined by the risk-free rate, the asset's sensitivity to market movements (measured by beta), and the expected market return. Kankpang et al., (2023) revealed that CAPM assumed that investors are rational, meaning they make decisions that maximize their expected utility, based on risk-return trade-offs. Furthermore, investors are risk-averse, meaning they prefer less risk for the same expected return. This assumption aligns with the notion that individuals seek to minimize risk while maximizing returns (Markowitz, 1952). Rational and risk-averse investors are assumed to choose portfolios that balance risk and reward in the most optimal way (Sharpe, 1964; Fama, 1970; Markowitz, 1952; Kankpang et al., 2023).

Perfect capital markets imply the absence of transaction costs, taxes, or barriers to trading. All information is freely available to all market participants (Fama, 1970). Moreover, assets are assumed to be infinitely divisible, meaning that investors can purchase or sell fractional shares of any asset without influencing its market price. This creates a frictionless market where no investor can influence prices through their own trades (Modigliani & Miller, 1958). The CAPM assumed that all investors share a common investment horizon, which simplifies the analysis of portfolio choices (Sharpe, 1964; Modigliani & Miller, 1958). Since all investors have the same time frame for their investments, their decisions are made with a uniform view of the market conditions and expectations.

The CAPM assumes that there are no taxes on capital gains or income from investments and that there are no borrowing constraints. This makes it easier for investors to borrow or lend at the risk-free rate without restrictions (Modigliani & Miller, 1958). The absence of taxes or borrowing costs allows for the efficient allocation of capital and simplifies portfolio selection. This assumption holds that all investors have identical expectations regarding the future returns, volatilities, and correlations of all assets. This uniformity in expectations means that all investors agree on the risk and return profiles of all assets, leading to identical portfolio choices (Sharpe, 1964). The theory assumed that the existence of a market portfolio that includes all risky assets in the economy, weighted according to their market value. The market portfolio is considered the optimal risky portfolio, meaning that all investors hold some proportion of it in their portfolios (Fama, 1970). In

the context of listed Deposit Money Banks in Nigeria, CAPM is particularly useful for assessing the risk-return trade-off for investors. Nigerian banks, which are exposed to both market volatility and local economic conditions, can be evaluated using their beta coefficients to determine how sensitive their stock prices are to the overall market. A higher beta suggests that the bank's stock price is more volatile and thus requires a higher return to compensate for the added risk (Sharpe, 1964). For financial risk management, CAPM enables banks to align their capital structure, lending practices, and other financial strategies with market expectations. By understanding the relationship between their stocks' beta and the market return, Nigerian banks can manage their exposure to systemic risks more effectively, ensuring that their financial performance remains robust even in challenging economic environments. In turn, investors can use CAPM to make more informed decisions about which banking stocks to invest in, taking into consideration the risk-adjusted returns. Thus, CAPM provides a valuable theoretical framework for financial managers and investors in the Nigerian banking sector, helping them navigate the complexities of risk management and financial performance evaluation (Përvetica & Ahmeti, 2023; Soyemi et al., 2022; Tahir & Razali, 2021; Wada et al., 2023).

Stakeholders Theory

The theory was developed by Dr. F. Edward Freeman in 1984 and it asserted that shareholders are merely one of the many stakeholders in a company and tries to encourage a stakeholders approach for better organizational management as the success of an organization must be valued as a whole and not just by one (The shareholders wealth maximization). This theory, contrary to the agency theory, appreciates the importance of interest of the stakeholders as a whole and not just the shareholders (Yogiana & Shaleha, 2023). This holds that all the stakeholders of Deposit Money Banks will benefit when the banks have performed well and the going concern of the banks will benefit all the stakeholders and not just the shareholders. When the Deposit Money Banks suffer financial risk, it will equally rub off on the stakeholders and not just the shareholder. It recognized the agency theory owing to the fact that the owners (the principal or Shareholders) are the owners of business and appointed the agent (the managers). The theory tries to illustrate that other stakeholders' interest aside from the shareholders matter a lot as this is the greatest problem of agency theory caused by conflict of interest. This study therefore sought to x-ray the ugly effects of financial risk on all stakeholders of deposit money banks and how they can benefit from the performance of the banks when these risks are managed and performance enhanced (Përvetica & Ahmeti, 2023; Soyemi et al., 2022). In the context of Deposit Money Banks in Nigeria, stakeholder theory has several implications for risk management and financial performance. Stakeholder theory emphasizes the importance of identifying and understanding the diverse range of stakeholders that have an interest in or are affected by the operations of Deposit Money Banks in Nigeria. This includes shareholders, employees, local communities, government agencies, environmental groups, and other relevant parties. Bassey (2022) opined that stakeholder theory highlights the importance of engaging with and considering the perspectives and concerns of various stakeholders, particularly in relation to risk management and financial performance. Deposit Money Banks in Nigeria need to actively involve stakeholders in decision-making processes, listen to their concerns, and respond to their expectations. This enables companies to better identify and address risks, while also considering the potential impact on financial performance (Tegene & Venkataram, 2023; Adeyinka & Henry 2024; Yogiana & Shaleha, 2023). In summary, stakeholder theory provides a framework for Deposit Money Banks in Nigeria to consider the interests of various stakeholders in their risk management and financial performance. By engaging stakeholders, addressing environmental and social risks, building reputation, attracting socially responsible investment, and maintaining a social license to operate, companies can improve their risk management practices and enhance their financial performance.

Empirical Review

Table 1 Summary of Empirical Review

Authors/Year	Research Topic	Methodology	Study Findings
Adeyinka and Henry (2024)	The relationship between risk management and financial performance of deposit money banks (DMBs) in Nigeria	The study employed an ex-post-facto research design. The study employed the judgmental sampling technique. The study employed an estimated technique that involved the use of descriptive statistics and Ordinary Least Squares (OLS) regression analysis. The E-view-9 software was utilized to carry out the analysis.	The study specifically concluded that loan loss provision is not statistically significant and does not appear to have a significant effect on operating income. The study suggested that Banks should continuously monitor the financial health and business performance of borrowers to identify early warning signs of distress.
Aikpokhio et al (2024)	The impact of risk management on project cost performance with reference to selected house developer in Abuja city.	The study used cross sectional survey research design. A sample of 256 respondents was utilised and risk management measure in four standpoints: risk identification, risk assessment, risk response planning and risk monitoring & control. Multiple regressions were vital for estimation	It was also noted that risk monitoring & control has the most influence of approximately 45% while risk response planning had the lowest influence of 26%, all things being equal. Therefore, the study recommended that organisations should continue to improve in the aspect of risk management while sustaining tempo on training and retraining in this aspect.
Houwayji (2024)	The relationship between risk management practices and Lebanon's financial market volatility.	The study utilized cross sectional research design; regression modeling to assess the relationships between the (risk management practices) and the dependent variable (financial market volatility).	The decision of Lebanon as the study's context is significant due to the unique economic and geopolitical challenges faced by the country.
Isibor et al. (2024)	The effect of market risk on financial performance of agricultural and oil and gas firms in Nigeria	The study employed an ex-post facto research design. The study used secondary data, secondary data used were collected from annual financial reports of the sampled companies for eleven years period spanning from 2012-2022. Robust	The results of the Robust Random Effect Model revealed that, Foreign exchange rate change has a positive significant effect on the financial performance (ROI) of sampled firms in the Nigerian exchange group ($P < .5$), Equity price change has a positive significant

		Random Effect Model was developed to test the effect between dependent and independent variables.	effect on the financial performance (ROI) of sampled firms in the Nigerian exchange group.
Kumshe et al (2024)	The effect of risk management on the financial performance of listed DMBs in Nigeria.	The study adopted correlation research design. The study used descriptive statistics and panel regression analysis to analyze the data collected.	The results of the analyses revealed that, credit risk management, market risk management and capital adequacy risk management have positive and significant effect on the financial performance of the listed DMBs in Nigeria. Liquidity risk management was found to have negative but insignificant effect on the financial performance of the banks in Nigeria.
Kyabarong et al (2024)	How board risk management affected the financial results of particular SACCOS in the Kiruhura District.	The study used a cross-sectional survey research design. Multicollinearity, mean and standard deviation.	The results from the analysis revealed that financial management of savings and credit co-operative societies (SACCOS) in Uganda was found to be significantly positively impacted by board risk management.
Makwe et al (2024)	Credit risk management and financial performance of deposit money banks DMBs in Nigeria.	The study used ex-post-facto research design. Panel regression analysis was used to analyse the time series data. The analysis covered the descriptive analysis, unit root analysis, pooled regression analysis, random effect, fixed effects as well as Hausman tests. The post estimation tests included serial correlation analysis and Heteroskedasticity tests.	The study found that nonperforming loans, total loans have negative and significant relationship with return on equity (ROE) but positive and significant relationship with return on investment (ROI). Bank capital was also found to have positive and significant relationship with financial performance of deposit money banks in Nigeria.
Mugisha and Twesigye (2024)	The effect of liquidity management on financial sustainability of financial institutions in Rwanda.	The trade-off theory, financial intermediation theory. The study used correlation and case study designs with a quantitative approach. Purposive sampling and convenience sampling techniques were used to	Findings show that asset securitization has no statistically significant effect on the financial sustainability of selected commercial banks in Rwanda ($\beta=.122, p>.05$). However, inter-bank borrowing/lending has a

		select this sample. Data was collected using the questionnaire and it was analyzed using descriptive and inferential analysis (correlation and regression analysis).	statistically significant effect on financial sustainability of selected commercial banks in Rwanda ($\beta=.565$, $p<.05$). Similarly, loan maturity management has a statistically significant effect on financial sustainability of selected commercial banks in Rwanda ($\beta=.297$, $p<.05$).
Njoroge and Ngahu (2024)	The influence of funding liquidity risk management on financial performance of construction firms.	The study was anchored on free cash flow theory. The current study adopted a descriptive research design. Descriptive and inferential analysis methods were employed in data analysis.	The correlation analysis results showed that the relationship between funding liquidity risk management and financial performance was positive and significant ($r=0.663^{**}$; $p=0.000$) at a 1% significance level. The findings affirm that funding liquidity risk management affected the financial performance of construction firms.
Onyegiri et al. (2024)	The effect of market risk on the financial performance of deposit money banks in Nigeria.	The study used ex-post-facto research design. The Autoregressive Distributive Lag (ARDL) model was the technique employed in estimating the models.	The result of the analysis revealed that market risk have not significantly affected changes in return on assets and return on equity of deposit money banks Nigeria, while market risk has significantly affected changes in yield on earning assets of deposit money banks Nigeria.
Sani and Hashim (2024)	Risk committee attributes and financial performance of listed deposit money banks (DMBs) in Nigeria	The study used correlational research design. The study used Augumented Dickey-Fuller (ADF) test, Johanson Cointegration test, Vector Error Correction Model (VECM), and random effect regression technique.	The random effect regression result showed that risk management committee gender diversity has positive significant impact on financial performance of listed deposit money banks (DMBs) in Nigeria
Soladoye et al (2024)	The effect of enterprise risk management on profitability of	Using the ex-post-facto research design and the census sampling technique and the	The multiple regression analysis revealed that chief risk officer (CRO) and board risk committee

	insurance companies in Nigeria.	multiple regression analysis was used	composition (BRCC) contributed positively to return on assets (ROA) but not at a statistically significant level.
Wijayanty et al. (2024)	The impact of financial risk on the performance of non-cyclical consumer sector companies listed on the Indonesia Stock Exchange.	The study employed a quantitative approach utilizing secondary data collected from audited annual reports. Panel data regression models were employed for testing purposes.	The findings revealed that market risk and credit risk exerted a negative influence on financial performance, whereas liquidity risk, solvency risk, and operational risk demonstrated no significant impact on financial performance.
Ambetsa et al. (2023)	The effect of liquidity risk management on the financial performance of Kenyan commercial banks.	The paradigm of Positivism served as the philosophical foundation for the investigation. The study utilized cross-sectional data spanning from 2010 to 2022. Using E-Views, descriptive and inferential statistics were used to analyze the collected data, which was then presented in tables and figures.	The study found out that liquidity risk management had an insignificant negative relationship with return on equity ROE and return on asset ROA. The findings from the study observed that liquidity risk management has a negative effect on financial performance measure either on return on asset or return on equity of Kenyan commercial banks. Thus, the study recommended that commercial banks should keep this parameter as minimum as possible so as not involve in loss making undertakings.

Source: Researcher Compilation (2025)

Gap in Literature

To date, there is a lack of empirical studies that focus on the moderating effect of risk committees on the relationship between financial risk management and financial performance, particularly within the context of listed deposit money banks in Nigeria. Most of the previous studies have relied on conventional static models to examine the relationship between financial risk management and financial performance such as: Jegede et al (2021); Jinadu (2022); John (2020); Jurdi and AlGhnamat (2021); Kakanda et al., (2021); Kanu (2021); Kyabarongo et al (2024); Mahat et al (2023). These models often fail to capture the dynamic and temporal aspects of the relationship, limiting their ability to provide a comprehensive understanding of how financial risk management impacts performance over time. To address this, the Panel Autoregressive Distributed Lag (ARDL) model has proven to be an effective methodology for analyzing both the short- and long-term effects of financial risk management on financial performance. However, no study to date has utilized this model to investigate the relationship between financial risk management and financial performance specifically in the context of listed deposit money banks in Nigeria. The ARDL model allows for the

examination of the dynamic relationships between variables over time, making it particularly suitable for addressing the gaps left by prior research that relied on less dynamic approaches.

While several studies have focused on the Nigerian banking sector, few have integrated a moderating variable, such as the risk committee, in analyzing the interplay between risk management practices and financial performance. By examining the role of the risk committee as a moderator, the study sought to fill this gap and offer a more nuanced understanding of how governance structures influence the effectiveness of financial risk management practices. To the best of our knowledge, there is no prior research that has simultaneously employed a Moderated Multiple Regression (MMR) model with the risk committee as a moderating variable, alongside the Panel ARDL Model, to assess the impact of financial risk management on financial performance in the context of listed DMBs in Nigeria.

METHODOLOGY

Research Philosophy

The study adopted the positivist research philosophy to investigate the effect of financial risk management and financial performance. The assumptions of the study are that there is an objective reality regarding financial risk management and financial performance that can be observed and measured. The study prefers quantitative data analysis to study the relationship between financial risk management and financial performance. The study used numerical data on financial risk management dimensions such as (credit risk and operational risk) and financial performance metrics such as (return on assets and earnings per share) to analyze patterns and relationships. The study involves formulating hypotheses based on prior research about how financial risk management practices influence financial performance, collecting data to test these hypotheses, and using statistical analysis to evaluate the results. The study interested in identifying cause-and-effect relationships between financial risk management and financial performance. The study use research designs that allow them to infer the effects of financial risk management practices on financial outcomes, seeking to establish causal relationships. By applying these assumptions within the context of financial risk management practices and financial performance research, the study aimed to uncover objective relationships and patterns that help explain how credit risk and operational risk impact the financial outcomes such as return on assets and earnings per share of Nigerian Deposit Money Banks.

Research Design: The study used an Ex-Post-Facto Research Design. The design seeks to identify antecedents of a present situation. The variable is not manipulated by the researcher, because it has already occurred in the past. The data involved are extracted from the published annual reports of the listed Deposit Money Banks (DMBs) on the Nigerian Exchange Group (NGX).

Population of the Study: The population consists of Fourteen (14) Listed DMBs in Nigerian Exchange Group (NGX) as at 31st December 2024. Also, for a bank to be included in the study it must have its data available throughout the period under study, on the basis of this, Fourteen (14) listed Deposit Money Banks were used.

Sample and Sampling Technique: Total sample size of Nine (9) Deposit Money Banks was realized employing purposive sampling technique. According to the Nigerian Exchange Group database, the inclusion criteria included banks that were in operation from 2014 to 2023. The exclusion criteria required banks that were placed in receivership or registered in Nigerian Exchange Group after 2014 to be isolated. As a result of the exclusion criteria, the sample size was reduced to Nine (9) Banks. These banks were surveyed and data analyzed over a Ten-year (10) period, yielding a Total of 90 firm-year observations.

Measurement of Variables: The variables that were adopted to measure the effect of financial risk management and financial performance of listed Deposit Money Banks in Nigeria are presented in this section.

Table 3: Explanation of Study Variables

Variables	Abbreviation	Type	Measurement	Sources
Earnings Per Share	EPS	Dependent	For the purpose of this study EPS were extracted direct from P or L account of the companies used	Makwe et al (2024) Malik et al (2020) Odubuasi et al (2020) Olaoye (2020)
Return on Assets	ROA	Dependent	Profit before taxes divide by total average assets	Horvey and Ankamah (2020) Houwayji (2024) Inegbedion et al (2020) Isibor et al (2024)
Credit Risk Management	CRM	Independent	Summation of Non-Performing Loan Ratio and Capital Adequacy Ratio	Olaoye et al (2020) Olayinka et al (2022) Onsongo et al. (2020) Onyegiri et al., (2024)
Operational Risk Management	ORM	Independent	Summation of Cost to Income Ratio and Cost of Risk	Adeusi et al (2021) Adeyinka and Henry (2024) Akten Çürük et al (2023) Jacob et al (2022) Wajid et al (2021) Ambetsa et al (2023) Njoroge and Ngahu (2024)
Risk Committee Size	RIC	Moderating Variables	Is the total number of board member are in the risk assessment committee	Desk Researcher (2024),

Source: Computed by the Researcher, (2025)

Model Specification: The study developed the group Descriptive Analysis, and Panel ARDL Analysis. Thus, drawing from the Neo-classical syntheses of Sala-i- Martin (2002), the research analyses was guided by a functional effect in order to establish the variables: the independent variable financial risk management, indices such as credit risk management (CRM) and operational risk management (ORM). These independent variable metrics are used to measures return on assets (ROA), earnings per share (EPS).

Model I: Return on Assets (ROA) Model

ROA = f (CRM, ORM, RIC)1

This can be written in Panel ARDL form as:

ROA_{it} = a₀ + a₁CRM_{it} + a₂ORM_{it} + a₃RIC_{it} + U_{it}.....2
a₁>0; a₂>0; a₃>0

Model II: Earnings Per Share (EPS) Model

EPS = f (CRM, ORM, RIC)3

This can be written in Panel ARDL form as:

EPS_{it} = a₀ + a₁CRM_{it} + a₂ORM_{it} + a₃RIC_{it} + U_{it}.....4
a₁>0; a₂>0; a₃>0

Equally, the Moderated Multiple Regression (MMR) techniques was used and is specified by adding an interaction term to the unmoderated multiple regression model in equations 2 and 4 to arrive at the following MMR models viz:

$$EPS_{it} = \beta_0 + a_1CRM_{it} + a_2ORM_{it} + a_3RIC_{it} + a_4CRM*RIC_{it} + a_5ORM_{it}*RIC_{it} + U_{it} \dots\dots\dots(5)$$

$$ROA_{it} = \beta_0 + a_1CRM_{it} + a_2ORM_{it} + a_3RIC_{it} + a_4CRM *RIC_{it} + a_5ORM_{it} *RIC_{it} + U_{it} \dots\dots\dots(6)$$

Legend:

- β_1 and β_3 = The coefficients (rate of change) in CRM and ORM and Risk Committee Size
- β_4 = The coefficient (rate of change) in the interaction term.
- $CRM*RIC_{it}$ = Interaction terms of Risk Committee on credit risk of company *i* in year *t*.
- $ORM_{it}*RIC_{it} =$ Interaction terms of Risk Committee on operational risk of company *i* in year *t*.
- f* = Function
- t* = Time period under study
- a_0 = Constant
- a_1 - a_3 = Parameter or coefficient of explanatory variable
- u* = Error term

Method of Data Analysis: The study used Descriptive Analysis, Unit Root Tests, and Panel ARDL Model for the purpose of data analysis. The E-views version 10 was used for the Descriptive Analysis; Unit Root Test on the other hand was performed in respect to Augmented Dickey-Fuller (ADF) to ascertain the stationarity state of the dataset as well as the Regression Technique of Panel ARDL.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Data Analysis

Descriptive Analysis

Table 4: Descriptive Statistics of the Variables

CATEGORY	CRM	ORM	ROA	EPS	RIC
Mean	6.429018	11.27389	4.226795	1.432893	0.705033
Median	6.495506	11.55000	0.020042	1.549840	0.698970
Maximum	7.440306	16.61000	32.20000	4.620209	1.079181
Minimum	5.053446	6.600000	0.001495	-2.000000	0.477121
Std. Dev.	0.544502	1.940903	9.529131	1.097992	0.128760
Skewness	-0.224945	-0.120574	1.886500	0.058808	0.654970
Kurtosis	2.836053	3.031899	4.725129	3.654576	3.533105
Jarque-Bera	0.859800	0.221886	64.54352	1.658637	1.500532
Probability	0.650574	0.894990	0.000000	0.436347	0.223511
Sum	578.6116	1014.650	380.4116	128.9604	63.45296
Sum Sq. Dev.	26.38691	335.2723	8081.587	107.2972	1.475540
<hr/>					
Observation	90	90	90	90	90
s	90	90	90	90	90

Source: Author computation using E-views 10

The descriptive statistics of the test variables is provided in Table 4. It can be observed that the financial year for which the financial information has been collected ranges between 2014 -2023 of Nine (9) listed Deposit Money Banks in Nigeria constituted an observations period of 90(10 x 9). The credit risk management (CRM) of the listed Deposit Money Banks has a Mean value of 6.429018

with Standard deviation of 0.544502 and it range between the Mini 5.053446) and Max (7.440306). Also, the operational risk management (ORM) of the listed deposit money banks has a Mean value of 11.27389 with Standard deviation of 1.940903 and it range between the Mini (6.600000) and Max (16.61000). Based on the result discovered, it can be said that listed deposit money banks in Nigeria manage more of operational risk compared to credit risk and market risk since they has the highest Mean values, Standard Derivation values, Minimum and Maximum values. Furthermore, the return on assets (ROA) of listed Deposit Money Banks in Nigeria had a Mean value of 4.226795 with Standard deviation 9.529131 and it ranges between Mini (0.001495) and 32.20000. Similarly, the earnings per share (EPS) of listed deposit money banks in Nigeria had a Mean value of 1.432893 with Standard deviation 1.097992 and it ranges between Mini -2.000000) and 4.620209. Risk committee shows a Mean value of 0.705033 and Standard deviation 0.128760 and it ranges between Mini (0.477121) and 1.079181. The skewness statistics indicated that ROA, EPS and RIC are positively skewed which shown the variables has a long right tail. According to the information provided by kurtosis showed that, operational risk management (ORM), return on assets (ROA), earnings per share (EPS) and risk committee (RIC) have leptokurtic values, which suggested that the variables are higher than the kurtosis value of (3) that is clearly mesokurtic while credit risk management (CRM) fail kurtosis criteria because their kurtosis value is less than 3. Finally, the Probability of the Jarque-Bera Test statistics for CRM, ORM, EPS and RIC was greater than 0.05 implying that the data on these variables were normally distributed while ROA was less than 0.05 implying that the data on ROA were not normally distributed.

Unit Root Test

Table 5: Results Summary of Unit Root

Method I					
Variables	CRM	ORM	ROA	EPS	RIC
Level	0.0001	0.0077	0.0673	0.0116	0.2191
1 st Diff	-	-	0.0000	-	0.0027
Order of integration	1(0)	1(0)	1(1)	1(0)	1(1)
Remarks	Stationary	Stationary	Stationary	Stationary	Stationary

Source: Author Computation using E-Views, 10

The empirical results of the unit root test at 5 percent critical levels in Table 5 above shows that three variables of interest are I(0), that is, stationary at levels while two variables of interest are 1(1), that is stationary at first difference. Their p-values are less than 5% with respect to ADF Fisher. Hence, the study adopted ARDL Model due to the mix order of integration.

Table 6: VAR Lag Order Selection Criteria (ROA)

VAR Lag Order Selection Criteria
 Endogenous variables: ROA CRM ORM RIC
 Exogenous variables: C
 Date: 03/25/25 Time: 19:44
 Sample: 2014 2023
 Included observations: 36

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-537.0316	NA	1.33e+08	30.05731	30.23326	30.11872
1	-493.5844	74.82589*	29156379*	28.53246*	29.41220*	28.83951*
2	-478.3016	22.92410	31456200	28.57231	30.15583	29.12500
3	-467.2851	14.07661	45539102	28.84917	31.13648	29.64751

4 -449.1129 19.18186 48769612 28.72849 31.71958 29.77246

Source: E-View Output, Version 10

Table 7: VAR Lag Order Selection Criteria (EPS)

VAR Lag Order Selection Criteria
 Endogenous variables: EPS CRM ORM RIC
 Exogenous variables: C
 Date: 03/25/25 Time: 19:50
 Sample: 2014 2023
 Included observations: 36

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-455.7859	NA	1457468.	25.54366	25.71961	25.60507
1	-373.3254	142.0154*	36575.32*	21.85141*	22.73114*	22.15846*
2	-366.1755	10.72479	61999.25	22.34308	23.92660	22.89577
3	-360.0457	7.832493	117752.0	22.89143	25.17873	23.68976
4	-339.5589	21.62495	110889.4	22.64216	25.63325	23.68613
5	-321.8101	14.79067	142462.8	22.54501	26.23988	23.83462
6	-308.6181	8.061768	310474.9	22.70101	27.09967	24.23626

Source: E-View Output, Version 10

This section presented the VAR Lag Order Selection Criteria results in Table 6 to choose appropriate lag length for Return on Asset (ROA) Model I. The results revealed that all the criteria for selecting optimum Lag Length choose one (1) as the Lag Length for Model I. Also the VAR Lag Order Selection Criteria results in Table 7 to choose appropriate Lag Length for Earnings Per Share (EPS) Model II. The results revealed that all the criteria for selecting optimum Lag Length choose one (1) as the Lag Length for Model II.

Table 8: Panel Co-integration (ROA)

Pedroni Residual Cointegration Test
 Series: ROA CRM ORM RIC
 Date: 03/25/25 Time: 19:54
 Sample: 2014 2023
 Included observations: 90
 Cross-sections included: 9
 Null Hypothesis: No cointegration
 Trend assumption: No deterministic trend
 User-specified lag length: 1
 Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-0.284367	0.6119	-1.306705	0.9043
Panel rho-Statistic	-0.291676	0.3853	-0.000736	0.4997
Panel PP-Statistic	-8.986606	0.0000	-5.595914	0.0000
Panel ADF-Statistic	-2.865964	0.0021	-0.485163	0.3138

Alternative hypothesis: individual AR coefs. (between-dimension)

	<u>Statistic</u>	<u>Prob.</u>
Group rho-Statistic	1.198576	0.8847
Group PP-Statistic	-12.64316	0.0000
Group ADF-Statistic	-1.725561	0.0422

Source: E-View Output, Version 10

Table 4.8 present Panel Co-integration Test results. The results indicate one co-integrating equation at 0.05 level in the Trace test indicates while two co-integrating Group rho-Statistic at 0.05 level. We therefore reject the null hypothesis and conclude that there exists long run relationship among the variables.

Table 4.9 Panel Co-integration (EPS)

Pedroni Residual Cointegration Test
 Series: EPS CRM ORM RIC
 Date: 03/25/25 Time: 19:57
 Sample: 2014 2023
 Included observations: 90
 Cross-sections included: 9
 Null Hypothesis: No cointegration
 Trend assumption: No deterministic trend
 User-specified lag length: 1
 Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)				
	<u>Statistic</u>	<u>Prob.</u>	Weighted	
			<u>Statistic</u>	<u>Prob.</u>
	-		-	0.818
Panel v-Statistic	0.239272	0.5946	0.909409	4
	0.86818		0.08726	0.534
Panel rho-Statistic	7	0.8074	6	8
	-		-	0.000
Panel PP-Statistic	9.405843	0.0000	6.452395	0
	-		-	0.113
Panel ADF-Statistic	2.368662	0.0089	1.210552	0

Alternative hypothesis: individual AR coefs. (between-dimension)		
	<u>Statistic</u>	<u>Prob.</u>
	1.36332	
Group rho-Statistic	2	0.9136
	-	
Group PP-Statistic	8.936554	0.0000
	-	
Group ADF-Statistic	3.324343	0.0004

Source: E-View Output, Version 10

Table 4.9 present Panel Co-integration Test results. The results indicate one co-integrating equation at 0.05 level in the Trace test indicates while two co-integrating Group rho-Statistic at 0.05 level. We therefore reject the null hypothesis and conclude that there exists long run relationship among the variables.

Table 10: ARDL Analysis of Model I

Dependent Variable: D(ROA)
Method: ARDL
Date: 03/25/25 Time: 20:02
Sample: 2014 2023
Included observations: 90
Maximum dependent lags: 1 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (1 lag, automatic): CRM ORM RIC
Fixed regressors: C
Number of models evaluated: 1
Selected Model: ARDL(1, 1, 1, 1)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
CRM	-0.519456	0.219405	-2.367567	0.0226
ORM	0.060841	0.010630	5.723309	0.0000
RIC	-1.042285	0.280312	-3.718302	0.0006
Short Run Equation				
COINTEQ01	-0.768869	0.188860	-4.071098	0.0002
D(CRM)	0.495008	0.639014	0.774643	0.4429
D(ORM)	0.177196	0.053470	3.313970	0.0019
D(RIC)	-0.007192	0.865765	-0.008307	0.9934
C	21.79910	4.972673	4.383779	0.0001
Mean dependent var	0.154691	S.D. dependent var	7.187516	
S.E. of regression	4.666861	Akaike info criterion	5.070782	
Sum squared resid	914.7429	Schwarz criterion	6.404014	
		Hannan-Quinn		
Log likelihood	-180.1852	criter.	5.608419	

Source: E-View Output, Version 10

Decision: The result in Table 10 discovered an insignificant level between credit risk management (CRM) and return on assets (ROA) in the short run. The probability value $P = 0.4429 > 0.05$ revealed that the effect of credit risk management (CRM) on return on assets (ROA) is statistically insignificant at 0.05 alpha level in the short run. But in the long run, credit risk management (CRM) has significant effect on return on assets (ROA). The probability value $P = 0.0226 < 0.05$ revealed that the effect of credit risk management (CRM) on return on assets (ROA) is statistically significant at 0.05 alpha level in the long run. Thus the null hypothesis one is accepted in the short run and rejected in term the long run which implied that credit risk management has insignificant effect on return on assets of listed deposit money banks in Nigeria in the short run while credit risk management has significant effect on return on assets of listed deposit money banks in Nigeria in the long run. Additionally, the result in Table 10 discovered a significant level between operation risk management (ORM) and return on assets (ROA) in the short run. The probability value $P = 0.0019 < 0.05$ revealed that the effect of operation risk management (ORM) on return on assets (ROA) is statistically significant at 0.05 alpha level in the short run. Also, in the long run, operation risk management (ORM) has

significant effect on return on assets (ROA). Furthermore, the probability value $P= 0.0000 < 0.05$ revealed that the effect of operation risk management (ORM) on return on assets (ROA) is statistically significant at 0.05 alpha level in the long run. Thus the null hypothesis two is rejected for both short run and long run which implied that the effect of operation risk management on return on assets of listed deposit money banks in Nigeria is significant for the long run and short run.

Table 11: ARDL Analysis of Model II

Dependent Variable: D(EPS)
 Method: ARDL
 Date: 03/25/25 Time: 20:16
 Sample: 2014 2023
 Included observations: 90
 Maximum dependent lags: 1 (Automatic selection)
 Model selection method: Akaike info criterion (AIC)
 Dynamic regressors (1 lag, automatic): CRM ORM RIC
 Fixed regressors: C
 Number of models evaluated: 1
 Selected Model: ARDL(1, 1, 1, 1)
 Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
CRM	-9.593048	20.51341	-0.467648	0.6425
ORM	13.59264	4.470126	3.040772	0.0041
RIC	-27.62295	21.19731	-1.303134	0.1996
Short Run Equation				
COINTEQ01	-0.151247	0.109211	-1.384906	0.1734
D(CRM)	-970.4178	988.8602	-0.981350	0.3320
D(ORM)	-78.74957	76.31418	-1.031913	0.3080
D(RIC)	-1725.688	1727.774	-0.998793	0.3236
C	291.2681	484.9304	0.600639	0.5513
Mean dependent var	-487.2180	S.D. dependent var	4636.297	
S.E. of regression	3427.657	Akaike info criterion	8.845424	
Sum squared resid	4.93E+08	Schwarz criterion	10.17866	
Log likelihood	-350.0441	Hannan-Quinn criter.	9.383061	

Source: E-View Output, Version 10

Decision: The result in Table 11 discovered an insignificant level between credit risk management (CRM) and earnings per share (EPS) in the short run. The probability value $P= 0.3320 > 0.05$ revealed that the effect of credit risk management (CRM) on earnings per share (EPS) is statistically insignificant at 0.05 alpha level in the short run. Also, in the long run, credit risk management (CRM) has insignificant effect on earnings per share (EPS). Furthermore, the probability value $P= 0.6425 > 0.05$ revealed that the effect of credit risk management (CRM) on earnings per share (EPS) is statistically insignificant at 0.05 alpha level in the long run. Thus, the null hypothesis three (3) was accepted in the short run and long run which implied that the effect of credit risk management on

earning per share of listed deposit money banks in Nigeria is not significant for both short run and long run. Additionally, the result in Table 11 discovered a significant level between operation risk management (ORM) and earnings per share (EPS) in the short run. The probability value $P = 0.3080 > 0.05$ revealed that the effect of operation risk management (ORM) on earnings per share (EPS) was not statistically significant at 0.05 alpha level in the short run. But, in the long run, operation risk management (ORM) has an insignificant effect on earnings per share (EPS). The probability value $P = 0.0041 < 0.05$ revealed that the effect of operation risk management (ORM) on earnings per share (EPS) was statistically significant at 0.05 alpha level in the long run. Thus the null hypothesis four is accepted for both short run which implied that the effect of operation risk management on earnings share of listed deposit money banks in Nigeria is not significant for the short run, but in term of the long run the null hypothesis four is rejected for which implied that the effect of operation risk management on earnings share of listed deposit money banks in Nigeria is significant for the long run.

Table 12: Model Summary Moderation Analysis of RIC in ROA Model I

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.594 ^a	.353	.338	6.16422	.353	23.703	2	87	.000	1.291
2	.596 ^b	.355	.333	6.18872	.002	.312	1	86	.578	

- a. Predictors: (Constant), Zscore(ORM), Zscore(CRM)
 b. Predictors: (Constant), Zscore(ORM), Zscore(CRM), Zscore(RIC), INT
 c. Dependent Variable: ROA

SOURCE: MMR Results on ROA Model I

Table 12 provides information on the unmoderated and moderated results obtained from return on assets (ROA) Model. The Durbin-Watson statistic value 1.291 within the acceptable range of 1 to 3 specified by Field (2009) and this affirmed that the problem of autocorrelation is unlikely to exist in the series. Additionally, the unmoderated and moderated R^2 for the return on assets (ROA) specifications are 0.353 and 0.355 respectively that accounted for only 35.3% and 35.5% of the variations in return on assets (ROA) while 64.7% and 64.5% was explained by unknown variables that were not included in the Moderated Multiple Regression model in return on assets (ROA). However, for purposes of testing the set hypothesis on the change statistics and other valuable information resulting from the interaction effect of risk committee. The unmoderated and moderated R^2 for return on assets (ROA) model are 0.353 and 0.355 respectively resulting to R^2 change of 0.002 ($0.355 - 0.353$). This indicated an increase of 0.2% (0.002×100) in the variation explained by the addition of the interaction term in the return on assets (ROA) Model

Table 13 Summary of Moderation Analysis of RIC in ROA Model ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1801.297	2	900.648	23.703	.000 ^b
	Residual	3305.793	87	37.998		
	Total	5107.090	89			
2	Regression	1813.264	3	604.421	15.781	.000 ^c
	Residual	3293.825	86	38.300		
	Total	5107.090	89			

- a. Dependent Variable: ROA
 b. Predictors: (Constant), Zscore(ORM), Zscore(CRM)
 c. Predictors: (Constant), Zscore(ORM), Zscore(CRM), Zscore(RIC), INT

SOURCE: MMR Results on ROA Model I

Table 13 provides information on the unmoderated and moderated results obtained from earnings per share model. The model has F-statistic values 23.703 and 15.781 in its unmoderated and moderated specifications with respective Prob. ** value 0.000^b and 0.000^c indicated that both the unmoderated and the moderated models are properly fitted since the Prob. ** value is less than the decision criterion of 5%.

Table 14: Coefficients of Moderation Analysis of RIC in ROA Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	14.458	6.325		2.286	.025
Zscore(CRM)	-1.082	.245	-.389	-4.422	.000
Zscore(ORM)	.206	.048	.379	4.310	.000
2 (Constant)	15.744	6.755		2.331	.022
Zscore(CRM)	-1.165	.287	-.419	-4.059	.000
Zscore(ORM)	.204	.048	.376	4.241	.000
INT	.314	.562	.057	.559	.578

a. Dependent Variable: ROA

SOURCE: MMR Results on ROA Model I

Based on the results of the significant value from the above Table 14 It was disclosed that all of dimensions of the independent variables (financial risk management) credit risk management (CRM) and operational risk management (ORM) has significant effect return on assets (ROA) of financial performance since their sig values is lesser than 0.05 significant (0.000 and 0.000 for stepwise 1 and 0.000 and 0.000 for stepwise 2). However, base on the overall interaction term of significant value 0.578 which is greater than 0.05 significant levels. The study accepted the null hypothesis (H_{05}) and concluded that the moderating effect of risk committee on the relationship between total financial risk management and return on assets of listed Deposit Money Banks in Nigeria is not significant.

Table 15: Model Summary^c Moderation Analysis of RIC in EPS Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin - Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.377 ^a	.142	.122	5491.23236	.142	7.192	2	87	.001	
2	.410 ^b	.168	.139	5437.18551	.026	2.738	1	86	.102	1.125

a. Predictors: (Constant), Zscore(ORM), Zscore(CRM)

b. Predictors: (Constant), Zscore(ORM), Zscore(CRM), Zscore(RIC), INT

c. Dependent Variable: EPS

SOURCE: MMR Results on EPS Model II

Table 15 provides information on the unmoderated and moderated results obtained from earnings per share (EPS) Model. The Durbin-Watson statistic value 1.125 within the acceptable range of 1 to 3 specified by Field (2009) and this affirmed that the problem of autocorrelation is unlikely to exist in the series. The unmoderated and moderated R^2 for the earnings per share (EPS) specifications are 0.142 and 0.168 respectively that accounted for only 14% and 16% of the variations in earnings per share (EPS) while 86.0% and 84% was explained by unknown variables that were not included in the Moderated Multiple Regression model in return on earnings per share (EPS). However, for purposes of testing the set hypothesis on the change statistics and other valuable information

resulting from the interaction effect of risk committee. The unmoderated and moderated R^2 for earnings per share (EPS) model are 0.142 and 0.168 respectively resulting to R^2 change of 0.026 (0.168 - 0.142). This indicated an increase of 2.6% (0.026 x 100) in the variation explained by the addition of the interaction term in the earnings per share (EPS) model.

Table 16 Summary of Moderation Analysis of RIC in EPS Model ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	433.128	2	216.564	7.192	.001 ^b
Residual	262.765	87	301.859		
Total	305.893	89			
2 Regression	514.122	3	171.707	5.803	.001 ^c
Residual	254.771	86	295.242		
Total	305.893	89			

a. Dependent Variable: EPS

b. Predictors: (Constant), Zscore(ORM), Zscore(CRM)

c. Predictors: (Constant), Zscore(ORM), Zscore(CRM), Zscore(RIC), INT

SOURCE: MMR Results on EPS Model II

Table 16 provides information on the unmoderated and moderated results obtained from earnings per share model. The model has F-statistic values 7.192 and 5.803 in its unmoderated and moderated specifications with respective Prob. ** value 0.001^b and 0.001^c indicated that both the unmoderated and the moderated models are properly fitted since the Prob. ** value is less than the decision criterion of 5%.

Table 17 Coefficients of Moderation Analysis of RIC in EPS Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21774.288	5634.863		3.864	.000
	Zscore(CRM)	-634.027	217.939	-.295	-2.909	.005
	Zscore(ORM)	-125.877	42.592	-.299	-2.955	.004
2	(Constant)	25120.305	5934.517		4.233	.000
	Zscore(CRM)	-849.738	252.112	-.395	-3.370	.001
	Zscore(ORM)	-130.951	42.284	-.311	-3.097	.003
	INT	817.650	494.123	.190	1.655	.102

a. Dependent Variable: EPS

SOURCE: MMR Results on EPS Model II

Based on the results of the significant value from the above Table 17, it was disclosed that all of dimensions of the independent variables (financial risk management) credit risk management (CRM) and operational risk management (ORM) has significant effect earnings per share (EPS) of financial performance since their sig values is lesser than 0.05 significant (0.005 and 0.004 for stepwise 1 and 0.003 and 0.000 for stepwise 2). How, base on the overall interaction term of significant value 0.102 which is greater than 0.05 significant level. The study accepted the null hypothesis (H_{06}) and concluded that the moderating effect of risk committee on the relationship between total financial risk management and earnings per share of listed deposit money banks in Nigeria is not significant.

Discussion of Findings

Credit Risk Management and Return on Assets: The result in Table 10 discovered an insignificant level between credit risk management (CRM) and return on assets (ROA) in the short

run. The probability value $P= 0.4429 > 0.05$ revealed that the effect of credit risk management (CRM) on return on assets (ROA) is statistically insignificant at 0.05 alpha level in the short run. But in the long run, credit risk management (CRM) has significant effect on return on assets (ROA). The probability value $P= 0.0226 < 0.05$ revealed that the effect of credit risk management (CRM) on return on assets (ROA) is statistically significant at 0.05 alpha level in the long run. Thus the null hypothesis one is accepted in the short run and rejected in term the long run which implied that credit risk management has insignificant effect on return on assets of listed deposit money banks in Nigeria in the short run while credit risk management has significant effect on return on assets of listed deposit money banks in Nigeria in the long run. The finding of this study is in consonance with Kurawa and Garba (2022) study indicated that the moderating role of risk management committee revealed that credit risk has a positive and significant impact on financial performance of deposit money banks in Nigeria. Abere and Saka (2022) study concluded that credit risk management significantly affects the financial performance of commercial banks because of failure of counterparties to fulfil their obligations. However, finding of this study is not in consonance with Abubakar et al. (2021) findings suggest that credit risk management has insignificant positive impacts on the financial performance of commercial banks in Nigeria. Ewool and Quartey (2021) multiple regression result revealed that credit risk has a negative and significant effect on financial performance of commercial banks in Nigeria.

Operational Risk Management and Return on Assets: The result in Table 10 discovered a significant level between operation risk management (ORM) and return on assets (ROA) in the short run. The probability value $P= 0.0019 < 0.05$ revealed that the effect of operation risk management (ORM) on return on assets (ROA) is statistically significant at 0.05 alpha level in the short run. Also, in the long run, operation risk management (ORM) has significant effect on return on assets (ROA). The probability value $P= 0.0000 < 0.05$ revealed that the effect of operation risk management (ORM) on return on assets (ROA) is statistically significant at 0.05 alpha level in the long run. Thus the null hypothesis two is rejected for both short run and long run which implied that the effect of operation risk management on return on assets of listed deposit money banks in Nigeria is significant for the long run and short run. The finding of this study is in consonance with Abdul Khalik and Sum (2020) empirical findings have confirmed that operational risk management has a significant positive impact on improving the profitability of the enterprise. Ozioko and Enya (2021) result showed that there is a positive relationship between operational risk management and financial performance of banks. The study also revealed that sound risk management practices impact positively on the financial performance of banks. Our study disagreed with Kiptoo et al (2021) result reveals that return on asset is insignificantly and positively related to operational risk. Maryam et al (2021) empirical result showed that operational risk has an insignificant and negative effect on financial performance of banks in Nigeria.

Credit Risk Management and Earnings Per Share: The result in Table 11 discovered an insignificant level between credit risk management (CRM) and earnings per share (EPS) in the short run. The probability value $P= 0.3320 > 0.05$ revealed that the effect of credit risk management (CRM) on earnings per share (EPS) is statistically insignificant at 0.05 alpha level in the short run. Also, in the long run, credit risk management (CRM) has insignificant effect on earnings per share (EPS). The probability value $P= 0.6425 > 0.05$ revealed that the effect of credit risk management (CRM) on earnings per share (EPS) is statistically insignificant at 0.05 alpha level in the long run. Thus the null hypothesis three is accepted in the short run and long run which implied that the effect of credit risk management on earning per share of listed deposit money banks in Nigeria is not significant for both short run and long run. The finding of this study is in consonance with Suman (2023) findings revealed that Non-performing loan ratio (credit risk) has negative statistically significant effect on return on equity. Loan loss provision ratio (credit risk) also has negative statistically significant effect on return on equity. Our study is not in consonance with Chhetri (2021)

study confirmed that credit risks have a substantial impact on the financial performance (ROE) of Nigeria's deposit money institutions. Enekwe et al (2023) study indicated that there is a statistically significant association between net interest margin (NIM) and credit risk management (CRM) using the ordinary least square random effect regression model. Bassey (2022) study result revealed a significant relationship between credit risk and financial performance of Micro Finance Banks in Nigeria.

Operational Risk Management and Earnings Per Share: The result in Table 11 discovered a significant level between operation risk management (ORM) and earnings per share (EPS) in the short run. The probability value $P= 0.3080 > 0.05$ revealed that the effect of operation risk management (ORM) on earnings per share (EPS) was statistically not significant at 0.05 alpha level in the short run. But, in the long run, operation risk management (ORM) has an insignificant effect on earnings per share (EPS). The probability value $P= 0.0041 < 0.05$ revealed that the effect of operation risk management (ORM) on earnings per share (EPS) was statistically significant at 0.05 alpha level in the long run. Thus the null hypothesis four is accepted for both short run which implied that the effect of operation risk management on earnings share of listed deposit money banks in Nigeria is not significant for the short run, but in term of the long run the null hypothesis four is rejected for which implied that the effect of operation risk management on earnings share of listed deposit money banks in Nigeria is significant for the long run. The finding of this study is in consonance with Abubakar (2020) results of the study indicate that cash flow operation has an effect on enterprise risk management. Abubakar et al (2021) finding established that operational risk had significant and strong negative relationship financial performance of microfinance banks measured gauged with ROA. Ozioko and Enya (2021) result showed that there is a positive relationship between operational risk management and financial performance of banks. The study also revealed that sound risk management practices impact positively on the financial performance of banks. Catherine (2020) result revealed that operational risk management had a considerable impact on FBN banks' performance measures in Nigeria. However, finding of this study is not in consonance with Kiptoo et al (2021) result reveals that return on asset is insignificantly and positively related to operational risk. Additionally, Maryam et al (2021) empirical result showed that operational risk has an insignificant and negative effect on financial performance of banks in Nigeria.

SUMMARY OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND CONTRIBUTION TO SCHOLARSHIP

Conclusions

Based on the data analysis, and discussion of findings, and summary of findings above, the study concluded that;

1. Credit risk management negatively and significantly affects return on assets among listed deposit money banks in Nigeria in the short run but in the long run credit risk management positively and insignificantly affects return on assets among listed deposit money banks in Nigeria.
2. Operational risk management positively and significantly affects return on assets among listed deposit money banks in Nigeria in both the short run and long run. Also, credit risk management negatively and insignificantly affects earnings share among listed deposit money banks in Nigeria for both short run and long run.
3. Operational risk management negatively and insignificantly affects earnings per share among listed deposit money banks in Nigeria in the short run, but in term of long run operational risk management positively and significantly affects earnings per share among listed deposit money banks in Nigeria.
4. Risk committee has positive but insignificant relationship between financial risk management on return on assets among listed deposit money banks' in Nigeria. Furthermore, risk

committee size has negative and insignificant relationship between financial risk management on earnings per share among listed deposit money banks' in Nigeria.

Note: *The study generally concluded that the effect of financial risk management on financial performance of listed Deposit Money Banks in Nigeria is statistically significant for long run but in term of short run, the effect of financial risk management on financial performance of listed deposit money banks in Nigeria is not significant for the period 2014 - 2023.*

Recommendations

Based on the summary of findings and conclusions above, the following recommendations were made:

1. Commercial banks should manage credit risk by keeping it as minimum as possible so as to improve shareholder confident
2. Banks should manage their credit risk properly because of its significant effect on return on assets. Thus, banks should follow the rules guiding credit facilities as non- performing loans of these banks retard their financial sustainability.
3. Listed deposit money banks should shift attention from the market risk management and concentrate more on operational risk management because it enhance return on assets.
4. Proper regulations and sanctions should be imposed by banks in managing their risk committee size so as to enhance financial risk management and financial stability. The purpose for this recommendation was premised on the fact that the moderating effect of risk committee on the relationship between financial risk management and financial performance has significant effect.
5. Banks should mitigate the financial risk by using appropriate risk management strategies through forwards, futures, swaps, options, and insurance as well as securitization techniques.

Contribution to Scholarship

The study has made the following contributions to scholarship:

Practical Contribution: The study provided useful data and information required by regulators like Central Bank (CBN) and Nigeria Exchange Group (NGX) in assessing the effectiveness of financial risk management practices in deposit money banks and how these practices could be enhanced to strengthen financial performance. The study also contains information that could assist regulators in formulating new policies and frameworks and in reviewing the existing policies and frameworks on financial risk management practices in order to ensure financial system stability.

Theoretical Contribution: The findings of the study agreed with the proposition that extreme value theory is a good tool for analyzing the events or activities or financial risks which could lead to large financial risk loses to financial institutions while risk theory of profit is a good indicator for managers in measuring earning capacity in relation to the risk exposure of financial institutions.

Methodological Contribution: The use of various statistical techniques such as unit root tests, multiple regression, and moderated multiple regression approach provides a robust analytical framework, enriching research methodology in the field of financial risk management.

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